

## ABSTRACT

An apparatus, and a corresponding method, are usable for speeding up Retinex processing of an input image. The apparatus includes a down sample module having a sub-sampling algorithm, where sub-sampled images of the input image are produced, and a non-linear illumination estimation module that receives the sub-sampled images and produces  
5 corresponding interim illumination estimations. Finally, the apparatus includes an up sample module including one or more up-sampling algorithms. The interim illumination estimations are interpolated to produce an illumination estimation, and the illumination estimation is usable to perform a Retinex correction to the input image.